DWC Ion Scale Remover

Scale, rust, corrosion removal



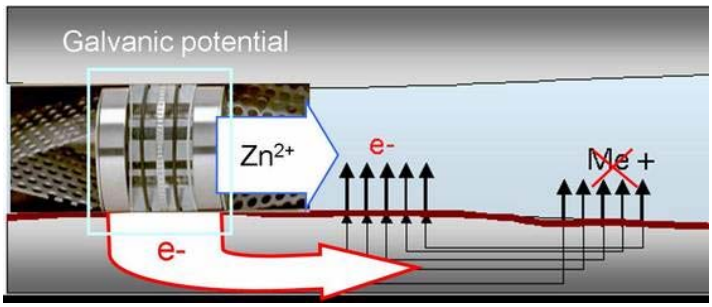
Problem

Scale deposits and corrosion in pipes
Pipes block up. Exclusive fittings, expensive household appliances, washing machines or dish washers calcify and cause expensive damage to the home or to the aggregates themselves. The increasing fear of broken pipes play an important role in the mind of every home owner or house manager. Expensive reconstruction work is likely to be due sooner or later.

Only 1mm of scale deposits in heating elements can waste up to 10% of energy per day. Higher power bills are the natural consequence. Valuable drinking water is also wasted, as it takes much longer for water to be heated up.

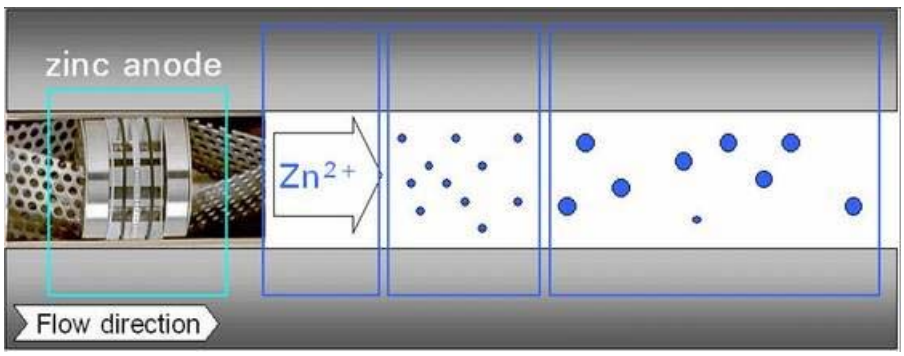
Functioning and process description

The effect of the DWC ION Scale Remover is mainly based on the electro galvanic principle. The core of the system consists of a high purity zinc reactive anode. The zinc reactive anode is preceded and followed by two Nirosta cyclonic devices. The floating material carried along is spun upwards by turbulent currents. This keeps the zinc reactive anode free and creates the greatest possible contact surface and amplifies the required treatment. The conductive connection between the brass mantle by means of the zinc reactive anode creates a galvanic element when water is added. The cell voltage is between 0.7 and 1 V and depends on the relevant water parameters.



Anti-corrosion protection
The anti-corrosion protection is based on the reactive anode principle familiar from marine technology and boiler construction. Zinc plates as anodes on the outer walls of hulls and bar type anodes in hot water boilers protect higher grade joints such as steel, galvanized iron and copper materials from corrosion. The dissolving of Zn ions at the anode and the resulting donation of electrons cause cathode reactions with the iron (lll) ions and copper (ll) ions of the pipeline system. The active anode system uses this effect to protect water-bearing pipeline systems against corrosion and the selective formation of holes. In simple terms: because of its relatively low standard potential, the zinc copper an-ode acts as a predetermined breaking point.

Anti-lime protection
The galvanic element described above and the associated donation of small amounts of zinc favours the agglomeration of materials contained in water with the added Zn ion as a crystallization core. The result is a large number of smaller particles. According to the laws of current theory, these particles provide a smaller surface for attack and are removed along with the water. This greatly reduces the adhesion tendencies of the agglomerates in the pipeline system.



Key benefits

- Slow decomposition of existing scale and corrosion deposits.
- Reduction of new deposits on all metallic surfaces.
- Immediate cost savings through a longer life of pipes, heating elements, exclusive fittings, dishwashers and washing machines.
- No chemicals added to the drinking water.
- No energy required
- No operating costs except the exchange of the anode.
- Expenses regarding energy and water waste can be drastically reduced.
- Ionization reduces the need for detergents, cleaning agents and dishwasher salt, and therefore is environmentally friendly and saves money.
- Tested and proven.

Contact

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Principle of pipe protection

The Ion Scale Remover protects all installations by turning aggressive scale deposits into much larger particles, which are neutralized and have more surface. The water is not softened! In this way, the important minerals remain in the water and the scale is simply neutralized and drained away. In iron pipes it reduces unwanted corrosion. After restoration it forms a protective layer that securely hinders the redevelopment of corrosion both in iron-copper and even plastic pipes. The so-called "pipe coronary" is avoided.
In copper pipes it builds up a homogeneous protective layer and prevents localized corrosion (pitting). "Pipe cancer" is avoided and aggressive water does not stand a chance in galvanically treated pipes.

The addition of zinc ions(ZN2+) is higher than the solubility in water. Zinc carbonates (ZnCO3) develop, which function as "inoculating crystals" for the limestone (CaCO3) present in its soluble state. The calcium carbonate grows into larger particles (agglomeration) on this competitive surface to such an extent, that the precipitated scale is no longer available to form into crystals on the inner pipe surface and/or heat transmission surfaces (heat exchangers).

Available in many sizes

Type	Connection (DN)	Connection (“)	Min Flow (m^3/h) 1m/s	Med Flow (m^3/h) 2m/s	Max Flow (m^3/h) 3m/s	Pressure loss (bar)	Length (mm)	Diameter (mm)	Weight (kg)	Application	Comments
AB-D10	DN10	3/8”	0.15	0.30	0.45	0.01	100	25	0,25	Individual protection	
AB-S15	DN15	1 / 2”	0.25	0.40	0.75	0.02	120	30	0.45	1-2 apartments	
AB-S20	DN20	3 / 4”	0.75	1.50	2.25	0.04	180	45	1.60	1 house	
AB-H20	DN20	3 / 4”	1.25	2.50	3.75	0.19	260	45	2.30	2-3 apartments	
AB-H25	DN25	1”	2.50	5.00	7.50	0.29	300	57	3.80	4-6 apartments	
AB-H32	DN32	1 1 / 4”	3.50	7.00	10.50	0.16	330	65	5.00	7 – 12 apartments	
AB-H40	DN40	1 1 / 2”	5.50	11.00	16.50	0.14	360	70	5.95	13 – 25 apartments	
AB-H50	DN50	2”	10.00	20.00	30.00	0.16	390	80	7.85	26 – 50 apartments	
AB-F50	DN50	2”	10.00	20.00	30.00	0.06	445	100	16.90	Industrial	
AB-F65	DN65	2 1 / 2	15.00	30.00	45.00	0.09	445	110	19.20	Industrial	
AB-F80	DN80	3”	20.00	40.00	60.00	0.06	445	135	23.80	Industrial	
AB-F100	DN100	4”	30.00	60.00	90.00	0.06	445	160	27.30	Industrial	
AB-F125	DN125	5”	40.0	80.00	120.00	0.07	445	200	42.40	Industrial	
AB-F150	DN150	6”	60.00	120.00	180.00	0.02	445	240	67.80	Industrial	
AB-F200	DN200	8”	90.00	180.00	270.00	0.01	445	295	91.10	Industrial	
AB-F250	DN250	10”	165.00	330.00	495.00	0.01	560	360	158.50	Industrial	